

Commonwealth of Kentucky
Division for Air Quality
RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT V-05-082
EAST KENTUCKY POWER COOPERATIVE, INC.
JOHN SHERMAN COOPER POWER STATION
BURNSIDE, KY 42519
JULY 21, 2006
BEN MARKIN, REVIEWER

SOURCE DESCRIPTION:

An application for the renewal of the Title V Permit V-05-082, for the East Kentucky Power Cooperative/John Sherman Cooper Power Station was received on May 3, 2004. The renewed Title V Operating Permit will include the Phase II Acid Rain Permit and NOx Budget Permit for this source.

The John Sherman Cooper Power Station is an electric power generation plant located on Lake Cumberland, near Burnside in Pulaski County. The station consists of two coal-fired boilers (with No. 2 fuel oil for Start-up and stabilization), each supplying steam to a dedicated turbine-generator. Each boiler is a balanced-draft, dry bottom, wall-fired type, utilizing “once through” cooling water.

PUBLIC AND U.S. EPA REVIEW:

On June 21, 2006, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Somerset Commonwealth Journal* in Pulaski County, Kentucky. The public comment period expired 30 days from the date of publication.

Comments were received from East Kentucky Power Cooperative on April 21, 2003. Attachment A to this document lists the comments received and the Division’s response to each comment. No changes were made to the permit as a result of the comments received. The U.S. EPA has 45 days to comment on this proposed permit.

ATTACHMENT A

Response to Comments

Comments on the East Kentucky Power Cooperative's (John Sherman Cooper Power Station) Draft Title V Air Quality Permit were submitted by Robert Hughes, Jr., Environmental Affairs Manager, on behalf of the East Kentucky Power Cooperative.

Title V Permit

- (1) **Comment #1:** The Division has lowered the particulate matter (PM) emission limit to 0.23 lb/mmBtu. The Division states [in the Statement of Basis] that due to a 1989 electrostatic precipitator (ESP) rebuild, the two boilers are subject to the allowable PM emission rates of 401 KAR 61:015, Section 4(1). EKPC disagrees with this change. Nowhere in 401 KAR 61:015 is it stated that a rebuilt ESP subjects the Permittee to a PM emission limit change.

In 401 KAR 61:015, Section 4, the last sentence states: "These affected facilities [Existing Indirect heat Exchangers] shall comply with the emission limitations in that administrative regulation except that replacement of the particulate emissions control device associated with the affected facility shall subject it to the standard contained in this section."

The Cooper ESPs were rebuilt in 1989, not replaced. Furthermore, 401 KAR 61:001, Section 1 (99) defines "reconstruction" as:

"Reconstruction" means the replacement of components of an existing affected facility to the extent that:

- (a) The fixed capital cost of the new components exceeds fifty (50%) percent of the fixed capital cost that would be required to construct a comparable entirely new affected facility;
- (b) The estimated life of the affected facility after the replacement exceeds fifty (50) percent of the life of a comparable entirely new affected facility;
- (c) The components being replaced cause or contribute to the emissions from the affected facility; and
- (d) It is technologically and economically feasible to meet the applicable requirements of 401 KAR Chapters 50 to 65.

The rebuild does not trigger any of the definitions put forth in a, b, c, or d. The 1989 Cooper ESP rebuild does not meet the required description in 401 KAR 61:001 to be labeled a reconstruction.

Therefore, the rebuild does not subject Cooper to the PM emission rate change. Cooper's PM emission rate is still subject to the Kentucky Air Pollution Control Commission Regulation No. 7 entitled "Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers."

Division's response: The Division has not made any changes to the permit based on this comment. The Division presents the following explanation.

401 KAR 61:015, Section 4(4) states:

The emission limitations contained in other subsections of this section shall not apply to any affected facility (with more than 250 million BTU per hour heat input capacity which was in being or under construction before August 17, 1971, or any affected facility with 250 million BTU per hour capacity or less which was in being or under construction prior to April 9, 1972) if that affected facility was in compliance prior to April 9, 1972, with, or has a valid permit to operate within the provisions of the previous Kentucky Air Pollution Control Commission Regulation No. 7 entitled "Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers." These affected facilities [Existing Indirect heat Exchangers] shall comply with the emission limitations in that administrative regulation except that replacement of the particulate emissions control device associated with the affected facility shall subject it to the standard contained in this section.

An application for the construction of the electrostatic precipitators was received at DAQ on July 14, 1982. The initial electrostatic precipitators for Boilers 01 and 02 were both American Standard-Series model 39, with gas flow rates of 26026/84240 square feet and 490490/162/240 square feet, respectively.

According to the Division's records, both electrostatic precipitators were replaced with Flakt series, model IP2CHC19/20D3F/11.75 inch by 30.0 inch by 24.6 inch (3@8.2)-115,163 square feet and a gas flow rate of 540,299 scfm. An application for the replacement of the electrostatic precipitators was received on February 29, 1988. The Division responded to the modification on April 12, 1988.

The permittee has made reference to the definition of "reconstruction" as part of their comment;

however, 401 KAR 61:015, Section 4(4) states that “replacement” of the particulate emissions control device associated with the affected facility shall subject it to the standard contained in this section. While the term “replacement” is not defined in 401 KAR 61:001, Definitions, the Division does not agree that these two terms are synonymous and can be used interchangeably. The term “reconstruction” is specifically defined in terms of an affected facility which is itself defined as the indirect heat exchanger. Therefore, the definition of “reconstruction” cannot be applied to the subject control device. Consequently, the Division believes 401 KAR 61:015, Section 4(4) to be purposeful in expressing the term “replacement” in the context of a control device. Also, the Division considers the term “replacement” to mean a rebuilt unit or substitution of an existing control device with another control device, including the substitution of components of the control device. Based on this interpretation and the substantive changes to the then existing ESPs, as reflected in the information that was provided by the source in the request dated February 29, 1988, the changes made to the electrostatic precipitators in 1989 are considered to be replacements subjecting the boilers to the particulate matter limitations in 401 KAR 61:015, Section 4(1). There are no changes to the permit due to this comment.

- (2) **Comment #2:** The Division has inserted new specific monitoring requirements, specific recordkeeping requirements, and specific reporting requirements all related to plant start-up/shut-down. No authority exists in the regulations to allow the Division to add the extra burden of added monitoring, recordkeeping, and reporting requirements.

Through agreed order File: No.: DAQ-32500, EKPC supplied the Division and the London office a detailed start-up procedure. Cold and Hot start-up procedures, manufacturing manuals, pages in the manuals that relate to start-ups, etc. have been supplied to the Division and the London Regional Office. Manufacturer start-up times were also included.

EKPC does not agree with the new start-up monitoring, recordkeeping, and reporting requirements. Furthermore there is no regulatory basis for their addition.

EKPC requested that the above referenced reporting be deleted from Cooper’s Title V.

Division’s response: The underlying opacity limitation and requirement of 401 KAR 61:015, Section 4(3)(c) is not a new requirement applicable to this source. The Division has been given authority by

the U.S. E.P.A. under the approved Kentucky State Implementation Plan (SIP) to add conditions to an air permit to ensure compliance with any air regulation applicable to a source/facility. The Division has discussed the issue of start-up and shut-down times with EKPC (and other electric utility companies) in relation to this rule prior to commencement of the public comment period. Many electric utility companies do not have manufacturer's recommended start-up/shut-down times per se, but instead have recommended temperatures or RPMs in order to bring the boiler on-line. The Division has worked with the electric utility industry to develop suitable permit language to ensure compliance with 401 KAR 61:015, Section 4(3)(c). The Division does not consider the added monitoring, recordkeeping, and recording requirements to be overly burdensome as the permittee was already required to follow the manufacturer's recommended procedures and start-up times pursuant to the initial Title V permit. The only difference reflected in the renewal is the requirement to record this information and report it to the Division. The Division has not made any changes to the permit based on this comment.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.